

Trammell Crow Company

Heywood Stores Manchester Road

Bat Activity
Survey

October 2022



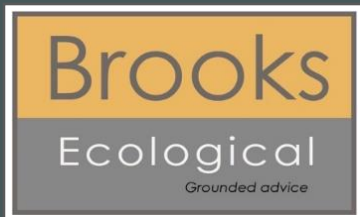
Heywood Stores, Oldham



Bat Activity Survey

19/10/2022

ER-6197-03 - Bat Activity



Report reference	ER-6197-03 - Bat Activity
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Summary Statement

Seasonal bat activity surveys carried out during optimal weather conditions, have demonstrated that the site is only regularly used by common pipistrelle bats, at a low level. Activity is seen to be sporadic both spatially and temporally.

The proposed redevelopment is considered to be highly unlikely to significantly negatively impact local bat populations. Opportunities for enhancement are provided.

Introduction

1. Brooks Ecological was commissioned by Trammell Crow Company Logistics (Heywood) Ltd to carry out detailed Bat Activity Survey at the proposed development Site at Heywood Stores, Oldham.
2. These surveys are required to provide evidence of the baseline use of the Site by the local bat population, which in turn will then enable mitigation and enhancement strategies to be devised to support a planning application.
3. The scope of the survey has been devised based on an assessment of the habitats present and in accordance with current best practice guidelines (Bat Conservation Trust, 2016).

Figure 1 Site location plan



Method

4. Survey and assessment was directed by Sam Kitching. Sam has over 10 years' experience undertaking bat surveys in a professional capacity and is registered to use the Bat Survey Class Licence (Level 2).
5. The objective of the survey was to collect up to date information on the Site's use by local bat populations, so that an accurate assessment of the potential impacts of development could be made. A transect and remote monitoring survey was carried out to collect the following data (Bat Conservation Trust, 2016):
 - The assemblage of bat species using the Site;
 - The relative frequency with which the site is used by different species;
 - The nature of activity for different bat species, for example foraging, commuting and roosting.

Survey Conditions

6. Walked transects were undertaken in Spring, Summer and Autumn, during optimal survey conditions. Survey conditions are summarised below:

Table 1 Survey Conditions

Survey	Date	Sunset	Weather	Invertebrate Activity
Spring	25.05.22	21:18	12°C, clear dry, Beaufort 3	Low
Summer	20.06.22	21:42	15°C, clear dry, Beaufort 0	Moderate
Autumn	12.09.22	19:33	15°C, clear dry, Beaufort 0	Moderate

Transects

7. Transects began around sunset and continued up to two hours after when all bats were thought to have emerged, and thus were actively foraging and commuting.
8. The transects were walked by a team of two surveyors, equipped with a heterodyne detector as well as a Titley Scientific Anabat Express, used to track the transect route and aid species identification. Notes taken during the survey were then used to produce the activity 'heat map' seen in the below figures.
9. Blue shades on the heat map correspond with low activity defined by up to 2 individuals intermittently recorded, yellow tones indicate more prolonged spells of activity by 2 -5 individuals whilst red tones indicate higher and consistent activity levels of 5 or more bats.



Remote Monitoring

10. To supplement data collected during the walked transect, static monitoring device/s (Wildlife Acoustic SM4) were deployed in a strategic location on-site prior to the start of the walked transect.
11. Data collected during the period of remote monitoring has been run through Kaleidoscope Pro software, which can identify bat calls down to species level (except for *Myotis*). Identification is generally correct when using this software; however, results are double checked to ensure accurate data analysis.
12. Every effort is made to split up *Myotis* calls down to species level. This is done by analysing calls on Analook software and looking at parameters such as inter-pulse interval, call duration, slope and maximum / minimum / peak call frequency. However, this can often be difficult when registrations are short in duration, faint or distorted by cluttered environments.

Limitations

13. Static monitoring can only reliably provide information on what species of bat are regularly making use of a site. More detailed information on bat activity, such as frequency of bats, nature of activity (foraging, commuting, flight path), etc. can only be gleaned through walked transects.
14. The frequency of calls recorded can, to some extent, suggest whether activity on site is low, moderate or high, by comparing data collected with that of similar sites that have been surveyed.
15. A single registration can account for up to 15 seconds of continuous bat call. Large batches of registrations can be interpreted in several different ways, i.e. a single bat foraging continuously for only an hour can result in many hundreds of registrations being logged; similarly, many hundreds of bats commuting quickly past the detector can result in the same number of registrations.

Spring Results

Walkover Transect

16. The transect commenced at the main entrance of the site, moving in an anticlockwise direction following the sites roads and pathways.
17. All bats observed during the transect were common pipistrelle.
18. Individual bats were seen in three locations to the east of the site.
19. Bat activity was marginally higher to the north, with three individuals observed foraging in the sites northern most corner and again, three bats observed foraging between the woodland edge and a line of landscaped trees to the north of the central buildings. A solitary bat was observed foraging in the sites north west corner.
20. The transect survey highlighted use of the site by a single, common and widespread species. Activity around more valuable habitat was noted to be higher than that observed elsewhere, as would be expected, though this does not appear to be definitive with scattered activity noted around the entire site.

Figure 2 Summary of bat activity observed during walked transect



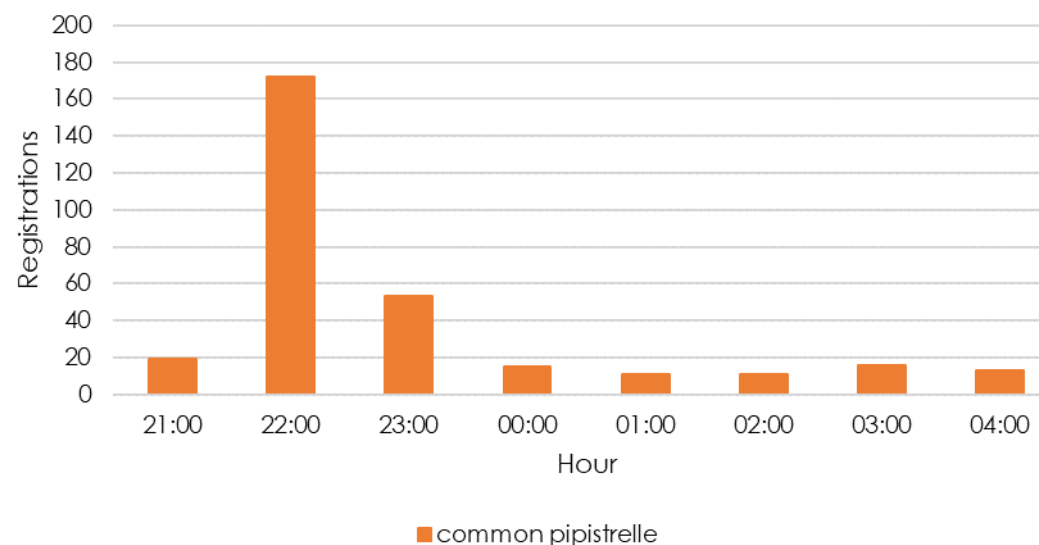
Remote Monitoring

21. A single remote detector (Song Meter SM4BAT FS) was deployed in the location as before, as shown in Figure 2. This was left to run for five consecutive nights, from the 21st to the 25th May 2022.
22. As seen during the transect, the only species recorded at the site was common pipistrelle.
23. The number of registrations recorded over the monitoring period is sporadic, being very low over 4 of the five nights, ranging between 0 and 33, but spiking on one evening with 230 registrations, though this is still considered to represent low levels of activity.
24. A clear spike is seen when registrations are plotted per hour, though this is heavily skewed by the single evening where a high number of registrations were recorded, 172 of the 230 for that evening being within one hour. This is likely to represent a single bat foraging in the area around the microphone for this period of time.
25. Beyond this spike, registrations are evenly spread across the night and monitoring days and demonstrate very little dependence by local bat populations on habitat within the site at this time of year.

Table 2 Total number of registrations logged for each bat species, per day across the spring period.

Species	21 st May	22 nd May	23 rd May	24 th May	25 th May
Common pipistrelle	33	230	15	32	0

Figure 3 Cumulative total of registrations logged for each hour across the spring monitoring period.



Summer Results

Walkover Transect

26. The transect followed the same route as that used in Spring.
27. Once again, only common pipistrelle were recorded using the site. However, unlike the Spring survey, no bias towards greater levels of use of perceived higher value habitat was noted.
28. Again, individual bats were seen foraging in a number of locations around the site. The highest levels of activity were recorded between the two southern units, where up to three bats were observed, and at the main crossroads where again, three common pipistrelle were seen at one time.
29. Some commuting activity was also observed with bats seen leaving the site in a north westerly direction on two occasions.

Figure 4 Summary of bat activity observed during walked transect



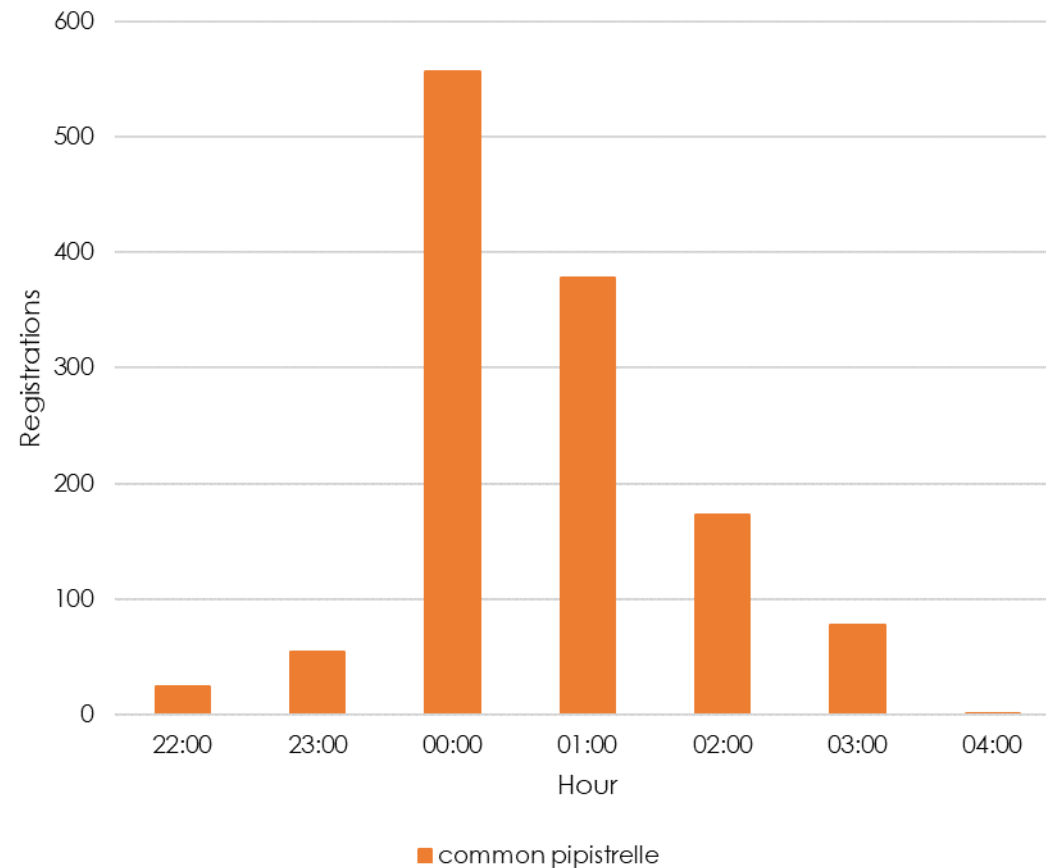
Remote Monitoring

30. A single remote detector (Song Meter SM4BAT FS) was deployed in the same location as before, as shown in Figure 4. This was left to run for five consecutive nights, from the 13th to the 17th June 2022.
31. Once again, only low numbers of registrations of common pipistrelle have been returned, albeit higher than levels recorded in spring. Again, the number returned per evening is sporadic.
32. A clear spike in activity is seen during the middle of the night suggesting some level of regular foraging on some of the monitoring evenings.

Table 3 Total number of registrations logged for each bat species, per day across the spring period.

Species	13 th	14 th	15 th	16 th	17 th
Common pipistrelle	4	100	51	568	532

Figure 5 Cumulative total of registrations logged for each hour across the spring monitoring period.



Autumn Results

Walkover Transect

33. Again, the same transect route was followed.
34. Once again, all recorded activity was attributable to common pipistrelle bats. Activity was marginally lower than that recorded in previous seasons. The number of contacts recorded was reduced and on no occasion was more than one bat seen at any one time.
35. Again, a pattern of commuting activity through the site from east to north west was noted, potentially indicating the presence of a roost within existing residential housing to the east.

Figure 6 Summary of bat activity observed during walked transect



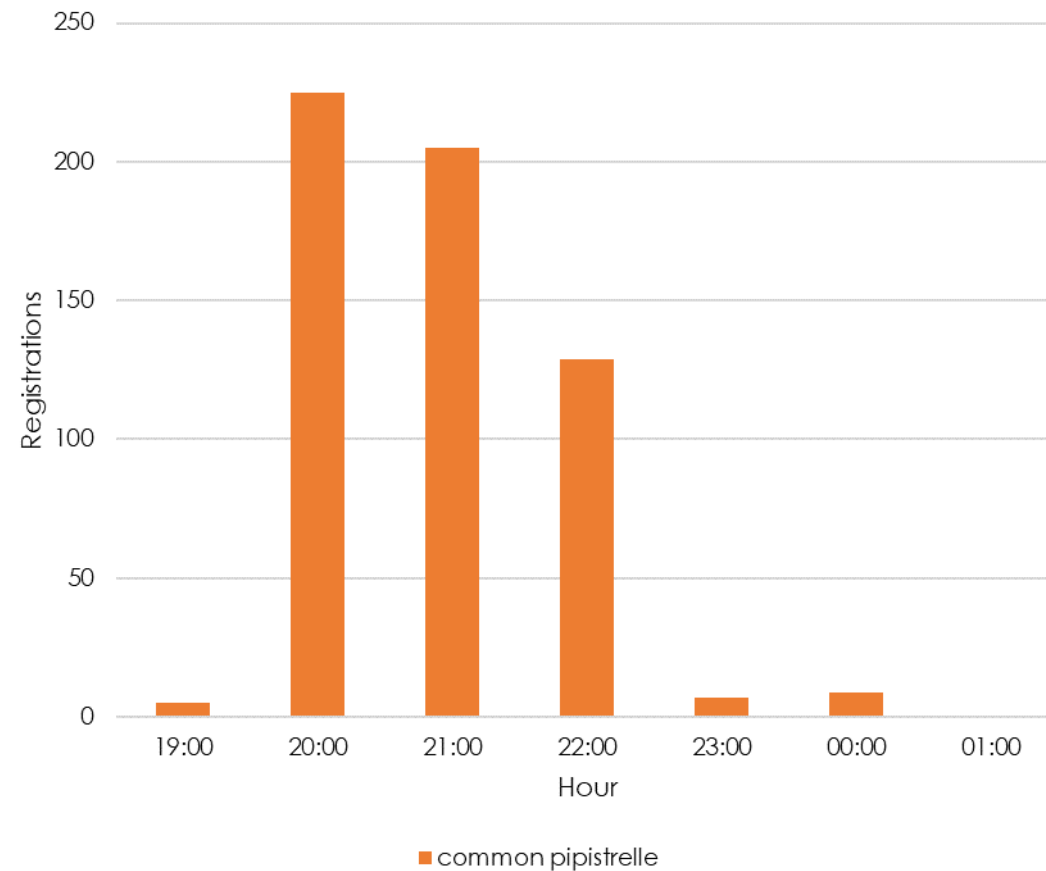
Remote Monitoring

36. A single remote detector (Song Meter SM4BAT FS) was deployed in the same location as before, as shown in Figure 6. This was left to run for five consecutive nights, from the 13th to the 17st September 2020.
37. Again, only registrations of common pipistrelle have been returned, and again the number returned per evening is sporadic, but low.
38. This, and the similar sporadic pattern recorded over the Spring and Summer periods reflects activity observed over the three walked transects, where no particular area of the site was seen to support regular foraging over the three seasons.

Table 4 Total number of registrations logged for each bat species, per day across the spring period.

Species	13 th	14 th	15 th	16 th	17 th
Common pipistrelle	110	373	23	0	3

Figure 7 Cumulative total of registrations logged for each hour across the Autumn monitoring period.



Conclusions

39. Seasonal bat activity surveys carried out during optimal weather conditions, have demonstrated that the site is only regularly used by common pipistrelle bats, at a low level. Activity is seen to be sporadic both spatially and temporally.
40. Walked transects found only low-level foraging by common pipistrelle bats, with no more than three individuals being seen at any one time. Furthermore, locations of the most significant levels of activity seen during transects changed between seasons.
41. Remote monitoring corroborates these findings, with only registrations of common pipistrelle being returned, and represented by a very sporadic pattern over various monitoring nights.
42. Bats have not demonstrated a particular dependence on any habitat within or around the site. The value of the site to local bat populations is likely to be limited due to the significant use of artificial illumination at the site.
43. Proposals show redevelopment of the site with new buildings but for a similar use. As such, they are considered unlikely to impact the low baseline levels of use at the site.

Recommendations

44. Based on the information collected and the proposed masterplan and future use of the site, the proposed development is unlikely to impact significantly on the local bat populations.
45. To minimise the impact of development of this group further, the following mitigation is recommended.
 - A sensitive lighting plan should be designed to show how light spill will be minimised in areas likely to attract foraging.
 - Existing hedgerows and new POS should be enhanced to maximise their value to bats and other local wildlife.
 - Bat boxes should be installed on a number of retained trees around the site's boundary.

References

BS:42020 2013. Biodiversity - Code of practice for planning development. BSI

Bat Conservation Trust (2016) Bat Surveys for Professional Ecologists – Good Practice Guidelines

Conservation of Habitats and Species Regulations 2010
<http://www.legislation.gov.uk/ukSI/2010/490/contents/made>

CIEEM (2019) Advice Note - On the Lifespan of Ecological Reports and Surveys

English Nature (2004) Bat Mitigation Guidelines. English Nature, Peterborough.

Institute of Lighting Professionals (2018) Bats and artificial lighting in the UK. Bat Conservation Trust Guidance Note 08/18.

<https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

JNCC (2004) The Bat Workers Manual. 3rd Edition.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System
<http://www.communities.gov.uk/publications/planningandbuilding/circularbiodiversity>

Wray S, Wells D, Long E, Mitchell-Jones T (2010) Valuing Bats in Ecological Impact Assessment. CIEEM In Practice.